

Claims

1. A polyhedral solid puzzle block (1) comprising:
a main body (10) upwardly open;

5 a cap (30) downwardly open and coupled with the main
body (10);

a connecting groove (13 and 33) formed at a center of a
side surface (11 and 31) of the main body (10) and the cap
(30), for allowing another solid puzzle block (1) to be
10 perpendicularly connected thereto; and

a connecting peg (14) and a connecting hole (15)
respectively formed on either end of a side surface (11), for
connecting respective side surfaces (11 and 31) of two solid
puzzle blocks (1).

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2. The solid puzzle block of claim 1, further
comprising:

a plurality of supports (20) spaced a predetermined
distance from an end surface (16 and 36) of the connecting
20 groove (13 and 33) inside the main body (10), for enabling
the main body (10) to be coupled with the cap (30), and
having a tab hole (19) defined on a top surface thereof;

a screw hole (39) formed on a portion of the cap (30)
opposite the support (20), and a screw (22) for fastening to
25 the support (20) through the screw hole (39);

an operating unit (21) installed inside the solid puzzle block (1) for emitting light or sound; and

a connector (17) connected by a wire to the operating unit (21) for electrically connecting to another solid puzzle block (1).

3. The solid puzzle block of claim 1, wherein the end surface (16 and 36) between left and right surfaces of the connecting groove (13 and 33) has a receiving groove (18 and 38) formed thereon for securing the connector (17) to the solid puzzle block (1), an insulator (17-1) is fitted around the connector (17) and disposed between the receiving groove (18) and the support (20) of the main body (10) for securing the connector (17) to the receiving groove (18 and 38).

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4. The solid puzzle block of claim 1, further comprising an embossing (12) formed on the left and right surfaces of the connecting groove (13 and 33) and the upper and lower surfaces (40 and 41) contacting the connecting groove (13 and 33) for increasing coupling strength.

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5. The solid puzzle block of claim 1, wherein the side surface (11 and 31) of the solid puzzle block (1) includes a T-connection groove (51) formed at a center for side-connecting and cross-connecting two solid puzzle blocks

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(1), and including an I-connection block (52) for inserting into and connecting two adjoining T-connection grooves (51).

6. The solid puzzle block of claim 1, wherein the connecting groove (61) on the side surface (11 and 31) of the solid puzzle block (1) includes a pin hole (62) formed in a cross section (61-1) at an end thereof, and has a fixing pin (63) inserted in the pin hole (62) for connecting two solid puzzle blocks (1).

7. The solid puzzle block of claim 1, wherein the connecting groove (71) formed on the side surface (11 and 31) of the solid puzzle block (1) includes an insertion guide (72) extending horizontally along the lengths of the left and right surfaces thereof, and the upper and lower surfaces (40 and 41) have an insertion groove (75) formed at a right angle thereon to run parallel to the insertion guide (72).

8. The solid puzzle block of claim 1, wherein one of its several side surfaces (11 and 31) has a connecting groove (81) formed thereon opening from the top to the bottom, and the remaining side surfaces (11 and 31) have a slide groove (82) respectively formed on the upper and lower surfaces (40 and 41).